

CONNECT AMERICA FUND PHASE II CHALLENGE OF COX COMMUNICATIONS, INC.

METHODOLOGY DESCRIPTION

Cox Communications, Inc. (“Cox”) hereby submits this information in response to the Commission’s public notice commencing the Connect America Fund (“CAF”) Phase II challenge process and thereby seeking comment on the proposed list of census blocks deemed initially eligible for Phase II support.¹ As shown below and in the attached materials, the Commission should revise the list to remove census blocks that are currently served by Cox to ensure that the Commission’s goal of only providing support to unserved areas is met. As shown below, Cox has identified 1166 census blocks that should be removed from the unserved areas list as a result of this challenge.²

Introduction

Cox is a broadband, communications and entertainment company that provides advanced digital video, Internet, telephone and home security services over its network. Cox serves approximately 6 million residential and commercial customers and operates in hundreds of communities in 18 states.

Since 1996, Cox has invested more than \$24 billion in infrastructure upgrades to deliver video, phone and high-speed Internet service to homes and businesses in its service areas. More than 99.5 percent of the households in Cox service areas have access to Cox high-speed Internet, at some of the fastest broadband speeds available in the nation. Throughout all Cox service

¹ See Public Notice, *Wireline Competition Bureau Commences Connect America Phase II Challenge Process*, WC Docket No. 10-90, WC Docket No. 14-93 (rel. June 30, 2014) (the “Challenge Public Notice”); Public Notice, *Wireline Competition Bureau Provides Guidance regarding Phase II Challenge Process*, WC Docket No. 10-90, DA 14-864 (rel. June 20, 2014) (the “Process Public Notice”).

² Concurrently with this challenge, Cox is submitting a waiver request that identifies additional census blocks that should be removed from the unserved areas list.

areas, Cox offers broadband service with speeds that well exceed 4 Mbps/1 Mbps, the minimum threshold to be deemed “served” for purposes of the CAF Phase II price cap carrier offer of statewide support

Cox supports the CAF goal of extending broadband to parts of the country that are unserved. Cox also appreciates the Commission’s efforts to ensure that the Universal Service funds available under the CAF are targeted toward those communities with the greatest need, rather than to areas that already have access to broadband service.

Information on Served Areas on Initial Unserved Area List

To assist the Commission in ensuring that CAF funds are directed to truly unserved areas, Cox is providing the information included herein in response to the list of census blocks initially deemed eligible for CAF Phase II funding in areas served by Cox. Consistent with the statutory requirement to expend funds only for projects in eligible areas and the Commission’s rules requiring that CAF funding be made available only in areas that do not have broadband service, this information should be used – along with information from other broadband providers – to obtain a clear picture of service availability in the areas proposed for inclusion in the offer of statewide support. This information also should be used to remove census blocks with available broadband service from the unserved area list. The list of the census blocks identified by Cox as having broadband Internet service and that should be deemed ineligible for CAF funding is included in Cox’s Form 505 submission.

The first step in Cox’s analysis was to narrow the census block list referenced in the Bureau’s June 30, 2014 Public Notice to focus only on states where Cox provides service and only on those price cap carriers with which Cox potentially has overlapping service areas. Focusing on areas served by AT&T, CenturyLink, Verizon and Windstream, this initial step

yielded 215,968 census blocks in Cox-served states where potential overlap with Cox service areas could exist.

The next step in the process was to determine actual census block overlap. Cox's node boundary maps were used to identify overlapping census blocks. These maps depict the coverage area of specific optical nodes and collectively define the geographic footprint where Cox offers its services. Further, these maps are updated when capacity constraints or other upgrades to Cox services require node splits and when Cox deploys additional nodes to expand its geographic reach. These maps are also critical to Cox's network and business operations and consequently provide an accurate portrayal of Cox's service area.

The process used to identify overlap involved layering census block and node boundaries on top of each other in MapInfo Professional v12, a GIS program. Node boundaries and census blocks are both closed polygon boundaries with unique IDs assigned to them. After layering, a query is performed to identify where the two layers intersect and the corresponding IDs from both layers where intersections occur are identified.

Using this process, Cox initially identified 3,103 census blocks where a Cox node boundary intersected with the boundary of a census block included in the Commission's initial list of unserved census blocks. These census blocks were then subject to further analysis beginning with the identification of serviceable addresses within each census block at issue. A serviceable address represents a location where Cox can, in general, immediately provide broadband Internet service without the construction of significant physical plant. The determination is driven by guidelines relating to proximity to existing network and by the type of construction involved (e.g., aerial or underground). The process again involves layering as

described above. In this case, census blocks represent a boundary layer and addresses represent a point layer. A query then identifies all the address points that fall within each census block.

The focused analysis yielded results that indicated that 1,682 census blocks included addresses that are currently serviceable by Cox. The remaining 1,421 census blocks yielded no Cox serviceable addresses but did overlap with Cox node boundaries. For these types of census blocks, in the CAF Phase I, Round 2 challenge process Cox performed an in depth analysis to determine if the census blocks should actually be considered “served” by Cox. However, given the specific criteria established by the Commission defining what it means for an area to be considered “served,”³ Cox removed these 1421 census blocks from further consideration.

To address the Commission’s new criteria concerning what constitutes an area being “served”, Cox next analyzed the 1682 census blocks containing serviceable addresses. This analysis was focused on the Commission’s requirement that a provider must already have customers in a census block or previously had customers in that census block.⁴ In instances where Cox previously had customers, Cox is willing and able to provide service in the relevant census block.⁵

In this stage of the analysis, Cox turned to its billing database – the Integrated Communications Operations and Management System or ICOMS. ICOMS is the primary billing platform Cox uses for all residential and commercial telecommunications services. It contains all product, pricing, and customer-related information necessary to provision, rate and bill for services on a monthly basis. ICOMS also drives serviceability determinations available via

³ See Process Public Notice, ¶ 9.

⁴ The Commission’s other criteria relate to the “offering” of service and the presence of physical assets. Cox routinely advertises its services via its website and various other means and as such holds itself out to the public as able and willing to provide service. The presence of physical assets is demonstrated by the intersection of node boundaries and census block boundaries as discussed on page 3.

⁵ Provisioning would occur within seven to ten business days and would not involve an extraordinary commitment of resources.

Cox's main website – www.cox.com.⁶ Consequently, the presence of an address in ICOMS is probative evidence that Cox has, or previously had, a customer at the specific address location at issue as required under the Commission's new criteria.

Given the foregoing, Cox compared the addresses available in its initial list of potentially served census blocks with ICOMS addresses. The process used to identify a street address in a census block as currently or formerly being serviced was determined by the use of the analytics tool, Lavastorm 4.6.1. This tool was used to match the street address information compiled by the GIS program to Cox's customer service address information in our billing database, ICOMS. This process employed very stringent matching logic, in effect requiring an exact match between the two different data sources. Where matches were found via this very stringent process, Cox is challenging the status of these particular census blocks as unserved.

Based on the analysis described above Cox has identified and is challenging a total of 1,166⁷ census blocks that were initially identified by the Commission's as unserved and eligible for funding. As noted above, all of these census blocks are identified in Cox's Form 505 submission. In addition, Cox has provided on Exhibit A accompanying its Form 505 the ICOMS account numbers and associated addresses identified via the process described above for each census block included in its challenge.

The information provided in this submission relates only to areas served by Cox, but it is apparent from Cox's analysis that there are likely to be other areas outside the Cox footprint that appear on the initial list but actually have broadband service available. Consequently, Cox encourages the Commission to use independent due diligence to determine the extent of other

⁶ While Cox also contracts with other retailers for the provision of similar information, for various reasons the data on these websites may not be as accurate as that provided via the main Cox website.

⁷ This total includes 285 census blocks in states where Cox currently receives high cost support. These are included in Cox's challenge as discussed further below

broadband service offerings in the proposed funded service area covered by this submission if other providers fail to submit information prior to the submission deadline.

Unsubsidized Competitor Additional Requirements

As the Commission has noted, for a census block to be considered served in the Phase II challenge process, a provider must meet specific performance and pricing requirements in addition to the threshold requirement of “serving” an area as discussed above. Each of these is discussed below.

Speed:

Unsubsidized competitors must provide speeds of at least 4Mbps downstream and 1 Mbps upstream. Throughout its markets, Cox offers a variety of speed tiers (5 total) to its customers. These tiers range from a “Starter Package” providing speeds of 1Mbps/384kbps to an “Ultimate Package” providing speeds of 150Mbps/20Mbps. Cox’s “Essential Package”, the service tier immediately above the “Starter Package”, provides speeds of 5Mbps/1Mbps. Cox’s speed tiers are typically offered uniformly across all markets. Variations may occur for a small period of time as Cox’s speed increases are rolled out in markets on a staggered basis. Please see Attachment 1 for an example of Cox’s speed tier offerings and descriptions.⁸ Cox offers at least one tier of service with speeds at the 4Mbps/1Mbps level or higher in each census block identified in Cox’s Form 505 and therefore Cox meets the Commission’s speed requirement.

Usage Allowance:

Unsubsidized competitors must provide at least one service offering with a minimum usage allowance of at least 100GB/month at a price that is reasonably comparable to similar wireline service in urban areas. Cox meets this minimum usage allowance requirement.

⁸These speed tier offerings and descriptions are available at <http://www.cox.com/aboutus/policies/speedsdataplan.cox>.

Attachment 1 lists Cox's speed tiers along with the applicable monthly data usage plan. Monthly usage plans range from 50GB (Starter Package) to 400 GB (Ultimate Package). Cox's Essential Package provides 100GB in monthly usage. Since these monthly usage plans are tied directly to the speed tier, they too are offered uniformly across all Cox markets.

Latency:

An unsubsidized competitor must have a round-trip network latency of 100 ms or less. In the CAF context, round trip latency is defined as the time it takes for a signal to travel from the customer premises to the closest designated Internet core peering interconnection point and back to the customer premises.

The Public Notice provides no specific guidance on how a provider can demonstrate that it meets the latency requirement. However, as described in the Commission's October 31, 2013 Phase II Order "carriers participating in the MBA program may use the results from that testing to support certification that they meet the latency requirement."⁹ Although the context of that discussion was for price cap carriers receiving CAF Phase II funding, it nonetheless demonstrates the Commission's general view that MBA testing can be used to demonstrate that the latency performance obligation is met.

In support of its certification that it meets the Commission's latency requirement, Cox performed an in-depth analysis of data supporting the Measuring Broadband America program. In particular, Cox examined internal panelist data involving a total of 183,000 individual latency tests made during the month of April 2014. The average latency measured by these tests was 25ms. That dataset also revealed that only 1.1% of average latency measurements was greater than 100 ms. Cox's service quality goals are uniform across its footprint, and it engineers its

⁹ Connect America Fund, *Report and Order*, 28 FCC RCd 15060, 15072 (2013).

network consistently to meet those goals, so based on this data Cox meets the 100 ms benchmark.

Pricing:

Unsubsidized competitors must offer service in rural areas at prices that are reasonably comparable to those in urban areas. As noted in the challenge process guide provided by the Wireline Competition Bureau, there are multiple ways in which a provider may demonstrate that its prices are reasonably comparable. Among these is the situation where a given provider offers its services in rural areas for the same or lower price offered for the same services in urban areas. This is the case with Cox.

In any given state, Cox offers its services at the same price throughout the state. Thus, there is no differentiation between rural and urban areas.

In addition to the preceding, Cox also meets the pricing requirement from a benchmarking perspective. As noted in the Commission's Challenge process guide the benchmarking requirement is met when non-promotional pricing for voice service is below \$46.96 and for broadband is below an interim benchmark of \$60.00. As demonstrated in Cox's recent response to the Commission's urban rate survey Cox's average non-promotional rate for unlimited or flat rate local voice service is \$24.56 and for the broadband "Essential Package" is \$45.59 both well below the Commission's benchmarks.

Unsubsidized Competitor

Except for certain areas in three states – Georgia, Louisiana and Oklahoma – Cox receives no high cost support and therefore qualifies as an unsubsidized carrier. For the reasons described below, and consistent with the guidance provided in the Commission's July 31 Basic

Guide, Cox challenges the status of those areas as subsidized and submits that they should be treated as unsubsidized areas.¹⁰

Prior to the *Transformation Order*, Cox was a recipient of high cost support in Georgia, Louisiana and Oklahoma as a competitive eligible telecommunications carrier. In each of those states, Cox is now receiving legacy support subject to the phase down adopted in the *Transformation Order*. On its Form 505, Cox has identified 285 Census Blocks in those states where it is receiving phase down support.¹¹ That support is scheduled to be phased down to \$0 on July 1, 2016 in each of the subsidized areas, but the actual date of the completion of the phase down is subject to the Commission's implementation of Phase II of the Mobility Fund. As the Basic Guide explains, in such circumstances the Bureau will entertain challenges for the affected Census Blocks.¹² Consequently, Cox requests that these Census Blocks be treated as unsubsidized.

Waiver Request

Cox is filing a separate waiver request to address Census Blocks where Cox believes it would be inappropriate and inconsistent with the Commission's goals to provide CAF Phase II funding in light of deployed facilities and other factors.

Conclusion

Based on information provided herein, Cox submits that the census blocks subject to this challenge should be deemed ineligible for CAF Phase II support.

¹⁰ See "A Basic Guide to the Connect America Phase II Challenge Process," revised July 31, 2014 (the "Basic Guide"), at 5, Item I.K.

¹¹ Those Census Blocks are indicated on the Form 505 with asterisks.

¹² *Id.*

Attachment 1

Cox Speed Tiers and Usage Allowances

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Speeds and Data Plans Information for High Speed Internet Service in Middle Georgia

Updated 11/18/13

Cox High Speed Internet service is offered in a variety of different packages of speeds and features designed to fit your needs. The following information describes the current Cox High Speed Internet data plans, pricing and fees, and additional network services information. This information will be updated from time to time as the services, features, price and data plans change. Packages vary by location and not all packages are available in all Cox areas. To view another location, change your selection in the top bar at the right.

Ultimate Package

Feature	Pricing and Offers
	Maximum Limit
1.Maximum download speed	150 Mbps
Maximum download speed with PowerBoost® 1	188 Mbps
2.Maximum upload speed	20 Mbps
Maximum upload speed with PowerBoost 2	25 Mbps
3.Monthly data plan 3	400 gigabytes combined download and upload
4.Online file storage (Cox Secure Online Backup)	Unlimited
GB = gigabyte(s)	
Mbps = megabits per second	

Premier Package

Feature	Pricing and Offers Maximum Limit
1.Maximum download speed	50 Mbps
Maximum download speed with PowerBoost® 1	63 Mbps
2.Maximum upload speed	10 Mbps
Maximum upload speed with PowerBoost 1	13 Mbps
3.Monthly data plan 3	300 gigabytes combined download and upload
4.Online file storage (Cox Secure Online Backup)	50 GB
	GB = gigabyte(s) Mbps = megabits per second

Preferred Package

Feature	Pricing and Offers Maximum Limit
1.Maximum download speed	25 Mbps
Maximum download speed with PowerBoost 1	31 Mbps
2.Maximum upload speed	5 Mbps
Maximum upload speed with PowerBoost 1	6 Mbps
3.Monthly data plan 3	250 gigabytes combined download and upload
4.Online file storage (Cox Secure Online Backup)	5 GB
	GB = gigabyte(s) Mbps = megabits per second

Essential Package

Feature

- 1.Maximum download speed
- 2.Maximum upload speed
- 3.Monthly data plan ³
- 4.Online file storage (Cox Secure Online Backup)

Pricing and Offers

Maximum Limit

- 5 Mbps
- 1 Mbps
- 100 gigabytes combined download and upload
- 1 GB

GB = gigabyte(s)

Mbps = megabits per second

Kbps = kilobits per second

Starter Package

Feature

- 1.Maximum download speed
- 2.Maximum upload speed
- 3.Monthly data plan ³
- 4.Online file storage (Cox Secure Online Backup)

\$24.99 per month. To order, give us a call

Maximum Limit

- 1 Mbps
- 384 Kbps
- 50 gigabytes combined download and upload
- 1 GB

GB = gigabyte(s)

Mbps = megabits per second

Kbps = kilobits per second